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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/749,388	12/28/2000	Yuki Hidaka	1422-0454P	5562

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EXAMINER

SHOSHO, CALLIE E

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 03/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action

Application No.

09/749,388

Applicant(s)

HIDAKA ET AL.

Examiner

Callie E. Shosho

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--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 17 February 2004 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
- ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☒ The proposed amendment(s) will not be entered because:
- (a) ☒ they raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ they raise the issue of new matter (see Note below);
- (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: see attachment.

3. ☐ Applicant's reply has overcome the following rejection(s): _____.
4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☐ The a) ☐ affidavit, b) ☐ exhibit, or c) ☐ request for reconsideration has been considered but does NOT place the application in condition for allowance because: _____.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☒ will not be entered or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: _____.

Claim(s) objected to: 7, 12 and 15.

Claim(s) rejected: 1-6, 8-11, 13, 14 and 16-23.

Claim(s) withdrawn from consideration: _____.

8. ☐ The drawing correction filed on _____ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____.
10. ☐ Other: _____

Callie E. Shosho
Primary Examiner
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Attachment to Advisory Action

1. Applicants' amendment filed 2/17/04 has been fully considered but the amendment has not been entered given that it raises new issues that would require further consideration.

Specifically, the amendment raises new issues under 35 USC 112 second paragraph as well as raises a new objection to the claims.

Specifically, claim 1 has been amended to recite the limitations of claims 4 and 15, which have been cancelled. Claim 1, as amended, requires water-insoluble graft copolymer comprising acrylic polymer side chain (P), salt-forming group (Q), and nonionic polymer side chain (R).

However, in light of the amendment to claim 1, claim 2 is now in improper dependent form for failing to further limit the subject matter of claim 1. Claim 2 states that the graft copolymer is a vinyl polymer obtained by copolymerizing (meth)acrylic macromer (a), polymerizable unsaturated monomer (b), and monomer (c) copolymerizable with macromer (a) and monomer (b). From the specification (page 13, lines 3-6), it is known that the nonionic polymer side chain (R) is formed from monomer (c). In claim 1, the nonionic polymer side chain is limited to those formed from polymer (I), polymer (II), copolymer (III), or group (IV), while monomer (c) in claim 2 encompasses all monomers copolymerizable with (a) and (b). Thus, claim 2 fails to further limit the claim on which it depends because claim 2 is broader than claim 1 in that monomer (c) in claim 2 encompasses any type of monomer copolymerizable with macromer (a) and monomer (b) and thus can form any type of nonionic polymer side chain (R) obtained from these monomers (c) while claim 1 is limited to four specific types of nonionic polymer side chain.

Further, in light of the amendment to claim 1 as discussed above, the scope of each of claims 19 and 20 is now confusing given that claim 19, which depends on claim 1, recites that the graft copolymer is prepared by polymerizing a monomer having an amino group, diazoating the resulting polymer to introduce an azo initiator structure into the polymer, and polymerizing an acrylate monomer using the polymer as an initiator. However, the scope of the claim is confusing because it is not clear how the process of claim 19 would produce the graft copolymer of claim 1. While it is seen how such process would produce graft copolymer comprising acrylic polymer side chain (P), i.e. formed from the acrylate monomer, it is not clear how such process would produce graft copolymer comprising both acrylic polymer side chain (P) and nonionic side chain (R). How is the nonionic polymer side chain produced from such process?

Similar questions arise with respect to claim 20 that also depends on claim 1. Claim 20 requires treating polymer comprising acid chloride with alcohol peroxide to convert acid chloride group to peroxide initiator group and polymerizing the resulting polymer with acrylate monomer. The scope of the claim is confusing because it is not clear how such process would produce graft copolymer with both acrylic side chain (P) and nonionic polymer side chain (R). Such process would appear to produce graft copolymer with acrylic polymer side chain only.

Further, it is noted that even if the amendment were entered, the rejection of present claims 22 and 23 by Anton et al. (U.S. 6,005,023) taken in view of the evidence in Satake et al. (U.S. 5,814,685) would not be overcome.

While applicants amendment to claim 22 would remove the 35 USC 112, 1st and 2nd paragraph rejections of record against claim 22, the claim would still be rejected by the references of record for the reasons set forth in paragraph 7 of the office action mailed 11/17/03.

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Specifically, col.2, lines 2, lines 30-38, col.3, lines 25-30, and col.4, lines 46-49 of Anton et al. disclose water-based ink comprising colorant and graft copolymer having polymeric backbone and macromonomer side chain. The side chain of the graft copolymer is a macromonomer that preferably comprises 50-80% methyl methacrylate, which corresponds to the monomer of presently claimed formula (1), and 20-50% methacrylic acid. Although there is no disclosure of the glass transition temperature of the side chain, it is well known, as evidenced by Satake et al. (col.4, lines 4-10, 39, and 51) that glass transition temperature (T_g) of polymer is calculated based on the type and amounts of monomers from which the polymer was obtained. Based on the glass transition temperatures of methyl methacrylate ($T_g = 105^{\circ}\text{C}$) and methacrylic acid ($T_g = 130^{\circ}\text{C}$) and assuming side chain comprises 60% methyl methacrylate and 40% methacrylic acid (amounts which fall both within the scope of the claims and the amounts disclosed by Anton et al.), it is calculated that the side chain possesses T_g of approximately 114°C .

Thus, the rejection of record would still be applicable against present claims 22-23 even if the amendment of 2/17/04 were entered.



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Art Unit 1714

CS
3/1/04